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MONTHLY NOTICES

OF THE

ROYAL ASTRONOMICAL SOCIETY.

Vol. LXIV. June 10, 1904. No. 8

Professor H. H. Turner, D.Sc., F.R.S., President, in the Chair.

Henri Deslandres, D.-ès-Sc., F.R.A.S., Observatoire d'Astronomie Physique, Meudon, S.-et-O., France;
Charles D. Perrine, Lick Observatory, Mount Hamilton, California, U.S.A.; and
George W. Ritchey, Yerkes Observatory, Williams Bay, Wisconsin, U.S.A.,

were balloted for and duly elected Associates of the Society.

Edward Barlow, Harewood, Andover, Hants;
Otto J. Klotz, LL.D., Department of the Interior; and 437 Albert Street, Ottawa, Canada; and
Major C. Leigh-Lye, care of Messrs. Holt & Co., 3 Whitehall Place, S.W.

were balloted for and duly elected Fellows of the Society.

The following Candidates were proposed for election as Fellows of the Society, the names of the proposers from personal knowledge being appended:—

William Allan, M.A., B.Sc., 88 Leamington Terrace, Edinburgh (proposed by P. S. Hardie);
Ernest Cuthbert Atkinson, M.A., formerly Assistant Curator of the Temple Observatory, Rugby, Erwood, Beckenham, Kent (proposed by H. H. Turner);
Arthur Henry Bagnold, Colonel R.E., Superintendent of the Building Works Department, Royal Arsenal, Warren Road, Shooter's Hill, S.E. (proposed by Major P. A. MacMahon);

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The Rev. D. B. Marsh, D.Sc., Hamilton, Ontario, Canada (proposed by John A. Brashear); and

William Newbold, Tonbridge School, Tonbridge, and 7 Broadwater Down, Tunbridge Wells (proposed by Edward Weldon).

Fifty presents were announced as having been received since the last meeting, including amongst others :—

Twenty-one prints of the Astrographic Chart (Zones +65°, +66°, +67°), presented by the Royal Observatory, Greenwich; two plates of the Harvard photographic map of the sky (to complete series), presented by the Harvard Observatory.

Analyses of Errors of Moon's Longitude for Inequalities of Longer Periods. Methods and Results. By P. H. Cowell.

Up to the present I have confined myself to short-period terms, and I have taken 400 lunar days as the period of analysis. To this there have been two exceptions. In order to properly discuss the terms $\sin g$ and $\sin(2D-g)$ it was necessary to analyse for $\sin(D-g)$; and similarly for terms $g' \pm D$ it was necessary to analyse for $\sin g'$.

Although the analysis for short-period terms will not be finally left in its present state, I have now gone on to terms of longer period. The whole fifty-four years, 1847–1901, has now been taken as a single period of analysis.

The errors to be analysed are shown in Table I.; the Hansen period 1847–1901 has been divided into 48×400 lunar days, or 480 times 40 lunar days, numbered from 891 to 1330 inclusive, in order to permit the Airy period beginning with No. 1. Each period of forty lunar days I refer to as a column, as the original errors have been arranged in columns, each column containing the errors of such observations as occurred in the corresponding forty lunar days. Table I. exhibits the mean error for each column, each individual observation having been corrected for thirteen corrections, as described in previous papers; but the constants for each period of 400 lunar days, which was removed for the purpose of the short-period analyses, have now been restored, and a correction $+1''\cdot3$ applied throughout the whole period, reducing the sum of the 480 quantities here tabulated to $+1''\cdot1$. It is further necessary to state that there were no observations in column 1244—that is to say on line 34, strip 10, of Table I.—and the number there entered has been supplied by inspection.

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